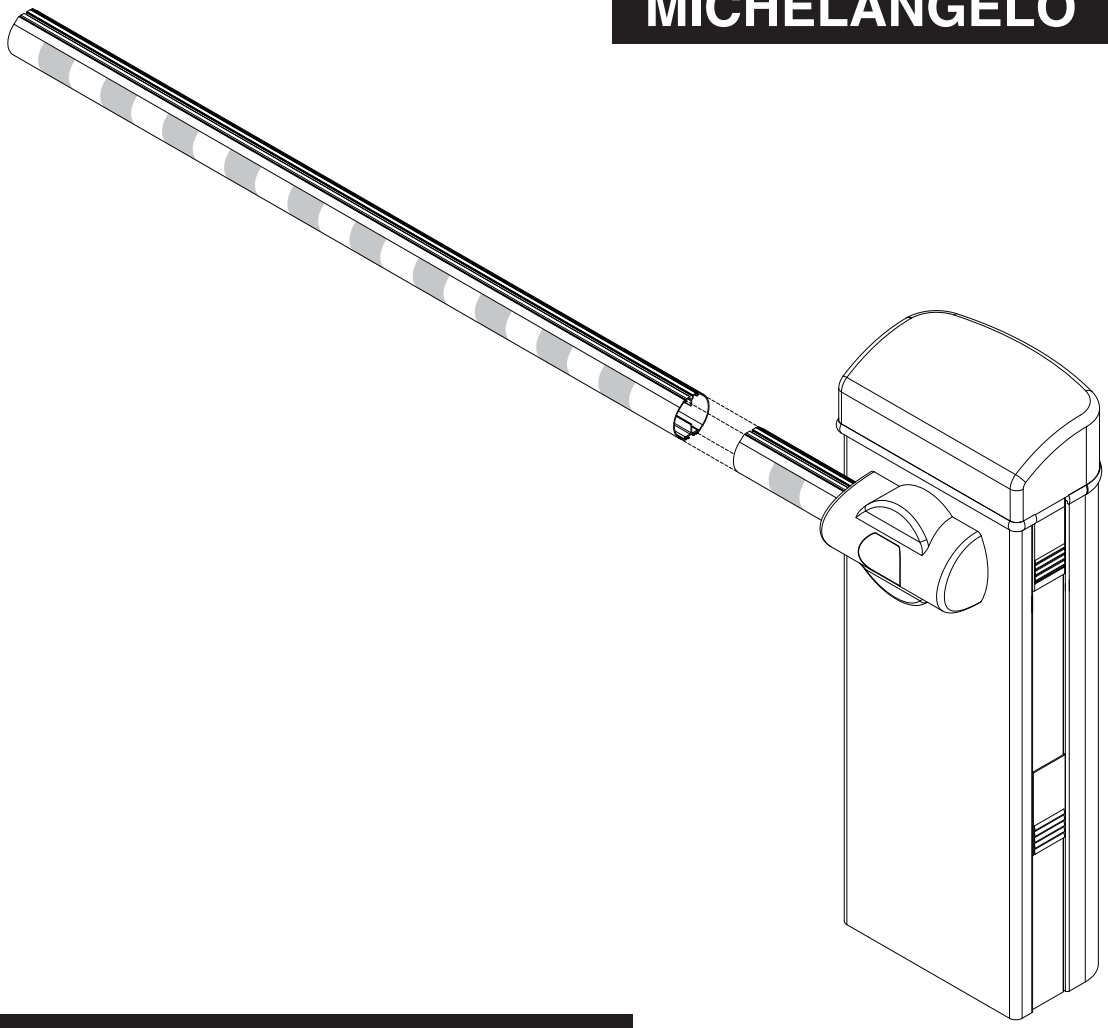
I AUTOMATISMO ELETTROMECCANICO PER BARRIERA VEICOLARE
GB ELECTROMECHANICAL CONTROL DEVICE FOR VEHICULAR BARRIERS
F AUTOMATISME ELECTROMECANIQUE POUR BARRIERE POUR VÉHICULES
D ELEKTROMECHANISCHER ANTRIEB FÜR FAHRZEUGSCHRANKEN
E AUTOMATISMOS ELECTROMECANICOS PARA BARRÉRAS VEHICULAR
P AUTOMATIZAÇÃO ELECTROMECÂNICA PARA BARREIRA VEICULAR

8 027908 301499

MICHELANGELO



ISTRUZIONI D'USO E DI INSTALLAZIONE
INSTALLATION AND USER'S MANUAL
INSTRUCTIONS D'UTILISATION ET D'INSTALLATION
INSTALLATIONS-UND GEBRAUCHSANLEITUNG
INSTRUCCIONES DE USO Y DE INSTALACION
INSTRUÇÕES DE USO E DE INSTALAÇÃO

UNAC

AZIENDA CON SISTEMA DI GESTIONE INTEGRATO CERTIFICATO DA DNV
= UNI EN ISO 9001:2000 =
UNI EN ISO 14001:2004

Via Lago di Vico, 44
36015 Schio (VI)
Tel.naz. 0445 696511
Tel.int. +39 0445 696533
Fax 0445 696522
Internet: www.bft.it
E-mail: sales@bft.it

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Fabbricante / Manufacturer / Fabricant / Hersteller / Fabricante / Fabricante: BFT S.p.a.

Indirizzo / Address / Adresse / Adresse / Dirección / Endereço: Via Lago di Vico 44
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- Dichiara sotto la propria responsabilità che il prodotto: / Declares under its own responsibility that the following product: /Déclare sous sa propre responsabilité que le produit: / Erklärt auf eigene Verantwortung, daß das Produkt: /Declara, bajo su propia responsabilidad, que el producto: / Declara, sob a sua responsabilidade, que o produto:

Automatismo elettromeccanico per barriera stradale mod. / Electromechanical control device for barriers mod. / Automatisme electromecanique pour barriere levante mod. / Elektromechanischer schrankenantrieb mod. / Automatismos electromecanicos para barréras mod. / Automatização electromecânica para barreira estradal mod.

MICHELANGELO

- È costruito per essere incorporato in un macchinario che verrà identificato come macchina ai sensi della DIRETTIVA MACCHINE. / Has been produced to be incorporated into a machinery, which will be identified as a machine according to the MACHINERY DIRECTIVE. / A été construit pour l'incorporation successive dans un équipement qui sera identifié comme machine conformément à la DIRECTIVE MACHINES. / Dafür konstruiert wurde, in ein Gerät eingebaut zu werden, das als Maschine im Sinne der MASCHINEN-DIREKTIVE identifiziert wird. / Ha sido construido para ser incorporado en una maquinaria, que se identificará como máquina de conformidad con la DIRECTIVA MAQUINAS. / Foi construído para ser incorporado numa maquinaria, que será identificada como máquina em conformidade com a DIRECTIVA MÁQUINAS

- È conforme ai requisiti essenziali di sicurezza delle Direttive: / It also complies with the main safety requirements of the following Directives: / Est conforme aux exigences essentielles de sécurité des Directives: / Es entspricht den grundlegenden Sicherheitsbedingungen der Direktiven: / Es conforme a los requisitos esenciales de seguridad de las Directivas: / Está conforme aos requisitos essenciais de segurança das Directivas

BASSA TENSIONE / LOW VOLTAGE / BASSE TENSION / NIEDERSPANNUNG / BAJA TENSION / BAIXA TENSÃO 73/23/CEE, 93/68/CEE (EN60335-1 ('02)) (e modifiche successive / and subsequent amendments / et modifications successives / und ihren nachfolgende Änderungen / e modificações sucessivas / y modificaciones sucesivas).
COMPATIBILITÀ ELETTROMAGNETICA / ELECROMAGNETIC COMPATIBILITY / COMPATIBILITÉ ÉLECTROMAGNÉTIQUE / ELEKTROMAGNETISCHE KOMPATIBILITÄT / COMPATIBILIDAD ELECTROMAGNETICA / COMPATIBILIDADE ELECTROMAGNÉTICA 89/336/CEE, 91/263/CEE, 92/31/CEE, 93/68/CEE (EN61000-6-1, EN61000-6-2, EN61000-6-3, EN61000-6-4, EN55014-1, EN55014-2) (e modifiche successive / and subsequent amendments / et modifications successives / und ihren nachfolgende Änderungen / e modificações sucessivas / y modificaciones sucesivas).
APPARECCHIATURE RADIO / RADIO SETS / INSTALLATIONS RADIO / RADIOAPPARATE / RADIOEQUIPOS / RADIOAPARELHOS 99/5/CEE (ETSI EN 301 489-3 (2000) +ETSI EN 301 489-1 (2000), ETSI EN 300 220-3 (2000)) (e modifiche successive / and subsequent amendments / et modifications successives / und ihren nachfolgende Änderungen / e modificações sucesivas / y modificaciones sucesivas).

- Si dichiara inoltre che è vietata la messa in servizio del prodotto, prima che la macchina in cui sarà incorporato, sia stata dichiarata conforme alle disposizioni della DIRETTIVA MACCHINE. / We also declare that it is forbidden to start the product before the machinery into which it will be incorporated is declared in compliance with the prescriptions of the MACHINERY DIRECTIVE. / Nous déclarons en outre que la mise en service du produit est interdite, avant que la machine où il sera incorporé n'ait été déclarée conforme aux dispositions de la DIRECTIVE MACHINES. / Es wird außerdem erklärt, daß die Inbetriebnahme des Produkts verboten ist, solange die Maschine, in die es eingebaut wird, nicht als mit den Vorschriften der MASCHINEN-DIREKTIVE konform erklärt wurde. / Se declara, además, que está prohibido instalar el producto antes de que la máquina en la que se incorporará haya sido declarada conforme a las disposiciones de la DIRECTIVA MAQUINAS / Declaramos, além disso, que é proibido instalar o produto, antes que a máquina em que será incorporada, tenha sido declarada conforme às disposições da DIRECTIVA MÁQUINAS

SCHIO, 12/11/2006

Il Rappresentante Legale / The legal Representative
Le Représentant Légal / Der gesetzliche Vertreter
El Representante Legal / O Representante legal

(GIANCARLO BONOLLO)

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Thank you for buying this product. Our company is sure that you will be more than satisfied with the performance of the product. This product is supplied with a "**WARNINGS**" leaflet and an "**INSTRUCTION MANUAL**". These should both be read carefully as they provide important information about safety, installation, operation and maintenance. This product complies with recognised technical standards and safety regulations. We declare that this product is in conformity with the following European Directives: 89/336/CEE, 73/23/EEC, 98/37/EEC and subsequent amendments.

1) GENERAL OUTLINE

Compact electromechanical barrier suitable for limiting private areas, parkings, access areas for vehicles only. Available for passageways from 6 to 8 metres. Adjustable electronic limit switches, they guarantee correct boom stopping position. In case of intensive use, a thermal sensor activates the cooling fan.
The emergency release device for manual manoeuvre is controlled by a personalised key lock.
The actuator is always supplied for left-hand side fitting. However, when necessary, the opening direction can be reversed by means of simple operations.
The BM mod. foundation base (on request) makes barrier installation easier.
Appropriate fittings make it easy to install accessories without needing to drill any holes.

⚠ **WARNING! The barrier must be exclusively used for vehicles to drive through. Pedestrians must not walk within the operator manoeuvring area. An appropriate pedestrian passageway must be provided for.**

2) EMERGENCY RELEASE (Fig.1)

The emergency release allows the bar to be manoeuvred manually. It is activated from the outside of the box by inserting the personalised key into the lock placed under the bar and rotating it anticlockwise by 90°.

WARNING! When an actuator without bar needs to be released, ensure that the balancing spring is not compressed (bar in the opening position).

3) USE OF AUTOMATION

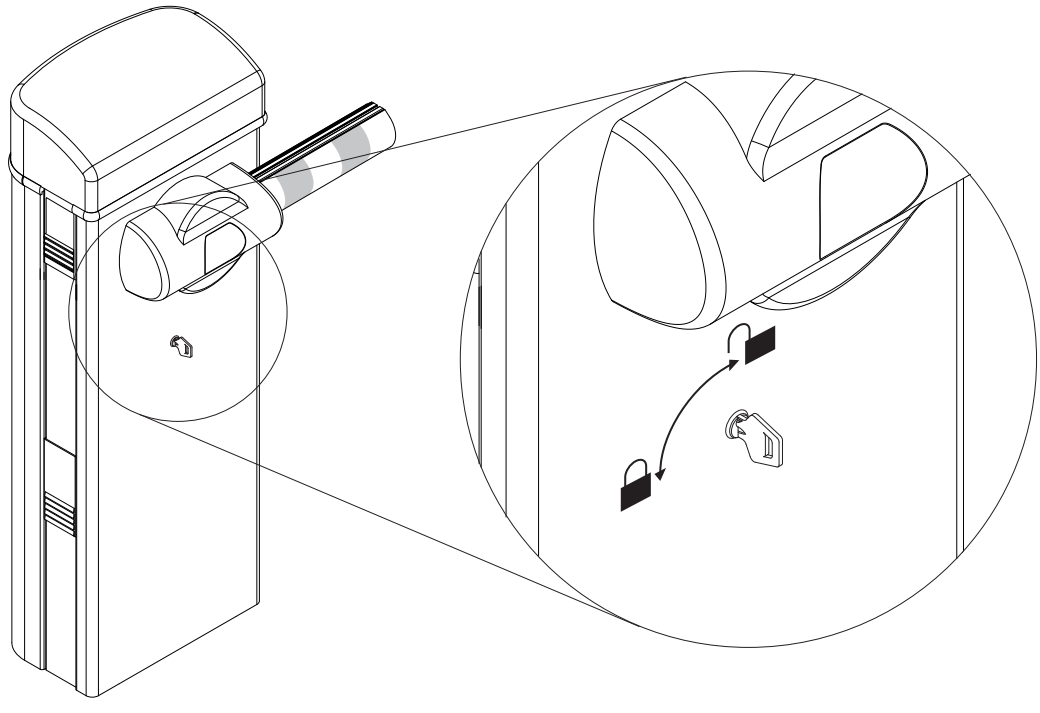
As automation can be remotely controlled and therefore not within sight, it is essential to frequently check that all safety devices are perfectly efficient.
WARNING! In case of any malfunction in the safety devices, take immediate action and require the assistance of a specialised technician.
It is recommended to keep children at a safe distance from the automation field of action.

4) SCRAPPING

Materials must be disposed of in conformity with the current regulations. In case of scrapping, the automation devices do not entail any particular risks or danger. In case of recovered materials, these should be sorted out by type (electrical components, copper, aluminium, plastic etc.).

The descriptions and illustrations contained in the present manual are not binding. The Company reserves the right to make any alterations deemed appropriate for the technical, manufacturing and commercial improvement of the product, while leaving the essential product features unchanged, at any time and without undertaking to update the present publication.

Fig. 1



MANUALE - MANUAL - MANUEL
BEDIENUNGSANLEITUNG - MANUAL - MANUAL

AUTOMATICO - AUTOMATIC - AUTOMATIQUE
AUTOMATIK - AUTOMÁTICO - AUTOMÁTICO

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The BM mod. foundation base (on request) makes barrier installation easier.

Appropriate fittings make it easy to install accessories without needing to drill any holes.

The **LIBRA C MV** control panel is supplied by the manufacturer with standard setting. Any change must be set by means of the incorporated display or by means of the universal programmer. The Control unit completely supports the EELINK protocol, including the programmer self-supply from the control unit.

Its main characteristics are:

- Electronic speed adjustment with slow-down at the end of run.
- Inputs for mechanical position reference elements.
- Separate inputs for safety devices
- Clock input
- Serial protocol connection input
- Incorporated rolling-code radio receiver with transmitter cloning.

The board is provided with a terminal board which can be pulled out for easier maintenance or replacement. The board is supplied with a series of pre-wired jumpers to facilitate the installer's work.

The jumpers relate to the following terminals: 15-17, 15-18, 15-20. If the above-mentioned terminals are in use, remove their respective jumpers.

2) GENERAL SAFETY

WARNING! An incorrect installation or improper use of the product can cause damage to persons, animals or things.

- The "**Warnings**" leaflet and "**Instruction booklet**" supplied with this product should be read carefully as they provide important information about safety, installation, use and maintenance.
- Scrap packing materials (plastic, cardboard, polystyrene etc) according to the provisions set out by current standards. Keep nylon or polystyrene bags out of children's reach.
- Keep the instructions together with the technical brochure for future reference.
- This product was exclusively designed and manufactured for the use specified in the present documentation. Any other use not specified in this documentation could damage the product and be dangerous.
- The Company declines all responsibility for any consequences resulting from improper use of the product, or use which is different from that expected and specified in the present documentation.
- Do not install the product in explosive atmosphere.
- The construction components of this product must comply with the following European Directives: 89/336/CEE, 73/23/EEC, 98/37/EEC and subsequent amendments. As for all non-EEC countries, the above-mentioned standards as well as the current national standards should be respected in order to achieve a good safety level.
- The Company declines all responsibility for any consequences resulting from failure to observe Good Technical Practice when constructing closing structures (door, gates etc.), as well as from any deformation which might occur during use.
- The installation must comply with the provisions set out by the following European Directives: 89/336/CEE, 73/23/EEC, 98/37/EEC and subsequent amendments.
- Disconnect the electrical power supply before carrying out any work on the installation. Also disconnect any buffer batteries, if fitted.
- Fit an omnipolar or magnetothermal switch on the mains power supply, having a contact opening distance equal to or greater than 3,5 mm.
- Check that a differential switch with a 0.03A threshold is fitted just before the power supply mains.
- Check that earthing is carried out correctly: connect all metal parts for closure (doors, gates etc.) and all system components provided with an earth terminal.
- Fit all the safety devices (photocells, electric edges etc.) which are needed to protect the area from any danger caused by squashing, conveying and shearing, according to and in compliance with the applicable directives and technical standards.
- Position at least one luminous signal indication device (blinker) where it can be easily seen, and fix a Warning sign to the structure.
- The Company declines all responsibility with respect to the automation safety and correct operation when other manufacturers' components are used.
- Only use original parts for any maintenance or repair operation.
- Do not modify the automation components, unless explicitly authorised by the company.
- Instruct the product user about the control systems provided and the manual opening operation in case of emergency.
- Do not allow persons or children to remain in the automation operation area.
- Keep radio control or other control devices out of children's reach, in order to avoid unintentional automation activation.
- The user must avoid any attempt to carry out work or repair on the automation system, and always request the assistance of qualified personnel.
- Anything which is not expressly provided for in the present instructions, is not allowed.
- Installation must be carried out using the safety devices and controls prescribed by the EN 12978 Standard.

3) TECHNICAL SPECIFICATIONS

MICHELANGELO

Power supply: ..... 230V±10% 50Hz(*)
Power absorbed: 300W
Motor: ..... 1600 min^{-1}
Absorption: ..... 1 A
Cooling intervention temperature: ..... 80°C
Internal lubrication: ..... permanent grease
Max torque: ..... 600 Nm
Boom length: ..... from 5m to 6m (**MICHELANGELO 60**)
..... from 6m to 8m (**MICHELANGELO 80**)
Impact reaction: ..... encoder
Manual mechanical release: ..... customised key
Type of boom: ..... round
Limit devices: ..... electrical incorporated and electronically adjustable
Maximum no. manoeuvres in 24h (peak): ..... continuous operation
Working temperature: ..... from -10°C to +55°C
Degree of protection: ..... IP 24
Operator weight (without boom): .....58 Kg **(MICHELANGELO 60)**
..... 68 Kg **(MICHELANGELO 80)**
Dimensions: ..... see fig.1
(*)= special power supply voltages on request

4) FOUNDATION PLATE (Fig.2)

- Prepare a foundation hole suitable for the particular kind of ground.
- Layout several raceways for the electric cables to pass through.
- Position the screws supplied with the barrier pack into the 4 fixing holes with the thread facing upwards. Weld the 4 screw heads to the base and protect the welds with rust preventer. Position the base so that it protrudes about 20mm from the floor (fig.2).
- Fill the hole with concrete, checking the position of the base in both directions by means of a level, and let the cement harden.

5) FITTING OF THE ACTUATOR

⚠ **WARNING! The barrier must be exclusively used for vehicles to drive through. Pedestrians must not walk within the operator manoeuvring area. An appropriate pedestrian passageway must be provided for.**

The passageway must be suitably indicated by means of the warning signs illustrated in Fig.10.

WARNING: before opening the door, the spring must be unloaded (vertical boom). The door of the box must be facing towards the inside of the property. When standing in the middle of the passageway, if the box is on the left the barrier opens to the left, and if the box is on the right the barrier opens to the right.

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The actuator is always supplied for left-hand side fitting.

5.1) Left-hand fitting

- Fix the operator to the foundation base and secure it by means of nuts M12. The door of the box must be facing towards the inside of the property.
- The upper surface of the operator is slightly tilted so as to prevent any rain water from being trapped there. Therefore use a side surface to check correct positioning by means of a level (fig.2).
- Fit the boom in its opening position (vertical) as indicated in fig.4, ref.6. The operator balancing is pre-calibrated for the nominal boom in the opening position (balancing spring stretched).
  WARNING! The boom must be positioned so as to have the double contour facing down (fig.3 ref.10).
- Balance the boom as described in relevant paragraph 6.

5.2) Right-hand fitting

Some internal members need to be moved, with reference to fig. 4 and the following procedure:

A) Fix the box to the foundation base and lock it in position using M12 nuts (Fig.7 Rif.1).
B) Ensure that the balancing spring is in the opening position (stretched spring).
C) Completely loosen the spring-stretcher "fig.7/ref.2" in order to remove the screw "fig.7/ref.3" that secures it to the reduction gear.
⚠ **WARNING! Never remove the screw in Fig.7 Ref.7 before having removed the screw in Fig. 7 Ref.3.**
D) Remove the boom locking bracket "fig.7/ref.4" and use a CH19 socket spanner to loosen the screw "fig.7/ref.5" until the plate can be rotated.
E) Turn the lever "fig.7/ref.6" by 90° and insert it correctly in position C.
F) Tighten the tie rod (fig. 7/ref.5) blocking the lever (fig.7/ref.6) by means of a torque wrench set at about 80 N/m.
G) Fit the spring unit in the position shown in "fig.7/ref.Dx" by means of the screw (Ref.7) and the self-locking nut. Then fit screw 3.
H) Adjust the spring stretcher (fig.7/ref.2) until the spring comes under tension.
I) Refit and partially fix the U bolt (fig.7/ref.4) holding the bar to the actuator in the opening position.
L) Fit the boom in its opening position (vertical) as indicated in fig.4, ref.6. The operator balancing is pre-calibrated for the nominal boom in the opening position (balancing spring stretched).
Fix the boom using the bracket (fig.4 ref.4) and the screws and washers supplied as standard, then fix the protection cover (fig.4 ref.8) and finally the screw cover (fig.4 ref.9).
WARNING! The boom must be positioned so as to have the double contour facing down (fig.4 ref.10).
M) Carry out bar balancing as described in paragraph 7.
N) Set the Direction Reversal logic to ON in the control panel.

⚠ **Warning: the Direction Reversal logic must be configured to OFF for left-hand fitted barriers, and to ON for right-hand fitted barriers. Otherwise, the limit devices will not operate or an encoder direction error will be displayed.**

5.3) Telescopic boom fitting

The internal telescopic boom and the joint are to be fitted in sequence into the external boom, as from diagram.

5.4) Telescopic boom fixing (Fig.6)

- Once joint B has been fitted to the external boom head, fix it using the four 3.5 x 25 CH screws (1).
- Insert the internal boom (C) into the external boom by at least 200 mm for MICHELANGELO 60 and by 600 mm for MICHELANGELO 80.
- Then fit the 3.5 x 38 CH screws (2) and the 3.5 x 16 CH screws (3) with dia.4 washers, by drilling a preparatory hole in the middle of the passageway using a 3.2 mm bit. Now position the drill bit in the housing channel found on the outside of the boom.
- The same operation is carried out to fit screws 4 and 5 and respective washers, at a distance between centres of about 180 mm from the first ones for MICHELANGELO 60 and 580 mm for MICHELANGELO 80.
- To obtain better system sturdiness, screw 4 is to be fitted diagonally opposite screw 2, and screw 3 is to be fitted diagonally opposite screw 5.

6) BAR BALANCING

- Activate the emergency release (fig.14).
- Position the bar at about 45°. The bar must remain still.
- If the boom tends to open, unload the spring.
- If the boom tends to close, load the spring.
- In both cases, load or unload the spring until the bar remains still at about 45°.
- Reset the motorised operation by rotating the release key to the opposi-te direction (fig.14).

WARNING! During the closing operation, the balancing spring must never be reduced to a pack (be totally compressed).

7) COVER OPENING AND CLOSING

OPENING: having released the cover by turning the key in the lock (present in the door as seen in Fig.3 ref.1 and 2), lift the cover as far as the mechanical stop (Fig.8 Ref.B). At this point, push the cover back until it becomes engaged in the holding pin (Fig.8 Ref.C).

CLOSING: to close the cover, reverse the order of the procedure followed above. Slightly lift the cover and pull it forward to release it from the holding pin. Then lower the cover while holding it, taking care to insert it in the groove present in the 2 pieces of the blinker. Finally lock the cover by turning the key in its vertical position as seen in Fig.3

8) OPTIONAL ACCESSORIES (Fig.13)

Foundation Base - BM
6-m boom light kit - KIT MCL LIGHT
Blinker kit - KIT MCL LAMPO
Moveable boom rest rod - GA
Fixed boom support fork - FAF
Cellula130 post fixing kit - KIT MCL 130
Skirt already assembled to the boom - SB (only for Michelangelo 60)
Safety edge BIR
Lower and/or upper boom covering contour - PCA 3, PCA 6

For further information about the installation and use of accessories, refer to the respective instruction manuals.

9) Photocell fitting (Fig. 12)

The photocell can be installed on the **MICHELANGELO** barrier as follows:

1- By directly fixing the **CELLULA 130** photocell to the side of the barrier (Fig. 12 "A")
2- Fitting the photocell post MCL 130 on the central element (Fig.12 "B").

A) Cellula 130 fitting

1) Remove the side with louvres "C" and drill the holes prepared inside, depending on whether the CELLULA 130 is to be fitted vertically (Fig.12A) or horizontally.
2) Lay the wiring needed for photocell connection.
3) Fit the photocell as shown in Fig. 12 by means of the appropriate screws.

Refer to the instruction sheet for Cellula 130 for further information.

B) MCL 130 post fitting

1) Remove the protection (P) cover positioned on the barrier.
2) Lay the wiring needed for photocell connection.
3) Fit post "F" and protection frame "G" as shown in Fig. 12B. The post is fastened from inside the barrier by means of 3 screws (supplied).
4) Fit the photocell to the post, as shown in the instruction sheet for Cellula 130.

Refer to the instruction sheet for Cellula 130 for further information.

10) ELECTRICAL INSTALLATION SET-UP

WARNING: before opening the door, the spring must be unloaded (vertical boom). Set up the electrical installation (fig. 10) with reference to the current regu-lations for electrical installations CEI64-8, IEC364, in conformity with HD384 and other national standards. Keep the mains power supply con-nections definitely separate from the service connections (photocells, elec-tric edges, control devices etc.).

Warning! For connection to the mains, use a multipolar cable having minimum 3x1.5mm² cross section and complying with the previously mentioned regulations (for example, if the cable is not protected, it must be at least equal to H07 RN-F, whereas if it is protected it must be at least equal to H07 VV-F with a 3x1.5 sq mm² cross section).

Connect the control and safety devices in conformity with the previously mentioned installation standards. Fig.10 shows the number of connections and section for a 100m length of power supply cables; for greater lengths, calculate the section for the true automation load. When the auxiliary connections exceed 50-metre lengths or go through critical disturbance areas, it is recommended to decouple the control and safety devices by means of suitable relays.

The main automation components are (fig.10):

I) Type-approved adequately rated omnipolar circuit-breaker with at least 3,5 mm contact opening, provided with protection against overloads and short circuits, suitable for cutting out automation from the mains. Place, if not al ready installed, a type-approved differential switch with a 0.03A threshold just before the automation system.

QR) Control panel and incorporated receiver.
S) Key selector.
AL) Blinker with tuned antenna.
M) Actuators.
A) Bar.
F) Rest fork.
CS) Electric edge.
CC) Edge control.
Ft,Fr) Pair of photocells.
CF) Photocell post.
T) 1-2-4 channel transmitter.
LOOP) Mass detector loops.

8) LIBRA C MV CONTROL PANEL

Power supply: ..... 230V~±10% 50Hz
Mains/low voltage insulation: .....> 2MOhm 500V⎓
Dielectric strength: ..... mains/low voltage 3750V~ for 1 minute
Motor output current: ..... 25A max (MICHELANGELO 60)
..... 30A max (MICHELANGELO 80)
Maximum motor power: ..... 600 W (MICHELANGELO 60)
..... 750 W (MICHELANGELO 80)
Supply to accessories: .....24V~ (180 mA max absorption)
Barrie-open warning light: .....24V~ 3W max
Blinker: .....24V~ 25W max
Fuses:.....see figure 18

12) TERMINAL BOARD CONNECTIONS (Fig.19)

WARNING – During the wiring and installation operations, refer to the current standards as well as principles of good technical practice.
The cables must be tied by additional fastening next to the terminals, by means of clips for example.
All the operator wiring operations must be carried out by qualified personnel.

JP4

1-2: Control for cooling fan

JP10

3-4: Not used
5-6-7-8: Motor and limit switch connections:
5-15 :closing limit switch
6-7 :motor
8-15 :opening limit switch
9-10: Blinker connection (24 V~, 25W)
11-12: 24 V~ 180mA max output – power supply for photocells or other devices.
13-14: 24 V~ 180mA max output – power supply for photocell transmitters with check (see Fig.19).

JP11

15-16: START button (N.O.).
15-17: STOP button (N.C.). If not used, leave the jumper bridged.
15-18: Photocell input (N.C.). If not used, leave the jumper bridged.
15-19: Photocell FAULT input (N.O.) for photocells provided with N.O. check contact (see Fig.19).
15-20: Safety edge input (N.C.). If not used, leave the jumper bridged.

JP12

21-22: Barrier-open warning light output (N.O. contact, 24V~/ 3W max) or, in alternative, alarm output (see configuration, paragraph 14).

JP9

23-24-26-28: Encoder inputs
15-25: APRI button (OPEN N.O.). If kept pressed for over 3 sec., it switches to clock input (TIMER N.O.).
15-27: CHIUDI button (CLOSE N.O.)

13) PROGRAMMING

The control panel provided with a microprocessor is supplied with function parameters preset by the manufacturer, suitable for standard installations.
The parameters predefined can be changed by means of the incorporated display or by means of the universal programmer.
In the case where programming is carried out by means of the universal programmer, carefully read the relevant instructions.
Connect the UNIFLAT accessory in the direction indicated in Fig.20.
In the case where programming is carried out by means of the incorporated display, refer to Fig. A and B and to the "configuration" paragraph.

14) CONFIGURATION

All the **LIBRA C MV** control panel functions can be set using the incorporated display, the three buttons for browsing through the menus and the operation parameter configuration:
\+ menu scrolling/value increment key
\- menu scrolling/value reduction key
OK Enter (confirm) key
The simultaneous pressure of the + and – keys is used to exit the active menu and move to the preceding menu.
If the + and – keys are pressed simultaneously at the main menu level (parameters, logics, radio, language, autosetting), programming is exited and the display is switched off (the OK message is displayed).
The modifications made are only set if the OK key is subsequently pressed.
When the OK key is pressed for the first time, the programming mode is entered.
The following pieces of information appear on the display at first:
- Control unit Software version
- Number of total manoeuvres carried out (the value is expressed in hundreds, therefore the display constantly shows 0000 during the first hundreds manoeuvres)
- Number of manoeuvres carried out since the latest maintenance operation (the value is expressed in hundreds, therefore the display constantly shows 0000 during the first hundreds manoeuvres)
- Number of memorised radio control devices.

When the OK key is pressed during the initial presentation phase, the first menu (parameters) can be accessed directly.
Here follows a list of the main menus and the respective submenus available.
The predefined parameter is shown between square brackets **[0]**.
The writing appearing on the display is indicated between round brackets.
Refer to Figures A and B for the control unit configuration procedure.

14.1) Parameter Menu (PArAM)

1 - Automatic Closing Time (tcA) [10s]
Set the numerical value of the automatic closing time from 1 to 180 seconds.

2- Maximum torque (toruE) [75%]
Set from 0% to 99% the maximum torque that activation must be able to provide before generating an obstacle alarm. With the maximum value set, the control is disabled.

3- Breakaway time (t.StArt) [25ds]
Set the time, in tenths of seconds from 1 to 250, of the breakaway phase for each movement.

4- Opening speed/Closing (uEL. AP.) [50%]
Set the numerical value of the speed: 1% corresponds to the slow-down speed, 99% to the maximum speed.

5- Slow-down torque (SLoUd toruE) [50%]
Set from 0% to 99% the torque to be applied during the slow-down phase. The initial slow-down value is automatically calculated according to this parameter and the effective movement speed.

6- Emergency braking (EMEr.brAkE) [50%]
Set braking intensity for emergency braking: 0% corresponds to normal slow-down, 99% to immediate stop.

7- Opening value calibration (cAL. AP.) [150.0]
Set the reference value from 0,0 to 200,0 for the required opening position (see Paragraph 13. Special parameter 1 on second-generation universal programmers).

8- Closing value calibration (cAL. ch.) [050.0]
Set the reference value from 0,0 to 200,0 for the required closing position (see Paragraph 13. Special parameter 2 on second-generation universal programmers).

9- Alarm time (ALArM. t IME) [30s]
In the case of obstacle detection or photocell engagement, at the end of the time set (ranging from 10s to 240s) the SCA contact is closed. The contact is subsequently opened by the STOP command or by triggering of the closing limit switch. Only active when the SCA Alarm logic is set to OFF.
If set to 0 s, the SCA contact becomes a connection to the Parky system.

10-Zone (ZonE) [0]
Set the zone number between a minimum value of 0 and a maximum value of 127.

14.2) Logic Menu (Lou Ic.)

- TCA (tcA) [ON]
ON: Activates automatic closing
OFF: Excludes automatic closing

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- 2-step logic (2 STEP) [OFF]
ON: Enables the 2-step logic (prevails over the "3-step logic").
OFF: Disables the 2-step logic, activating the 4-step logic if the "3-step logic" is OFF.
- 3-step logic (3 STEP) [ON]
ON: Enables the 3-step logic (if the "2-step logic" is OFF).
OFF: Disables the 3-step logic, activating the 4-step logic if the "2-step logic" is OFF.

Response to the START impulse

Barrier	2 steps	3 steps	4 steps
closed	opens	opens	opens
on closing			stop
open	closes	closes	closes
on opening		stop + TCA	stop + TCA
after stop	opens	opens	opens

- Opening Impulse lock (IbL oPEn) [ON]
ON: The Start impulse has no effect during the opening phase.
OFF: The Start impulse becomes effective during the opening phase.
- Impulse lock TCA (IbL tcA) [OFF]
ON: The Start impulse has no effect during the TCA dwell period.
OFF: The Start impulse becomes effective during the TCA dwell period.
- Pre alarm (PrE-ALArM) [OFF]
ON: The blinker comes on about 3 seconds before the motor starts.
OFF: The blinker comes on at the same time as the motor starts.
- Hold-to-run control device (hoLd-to-rUn) [OFF]
ON: Hold-to-run operation: the manoeuvre continues as long as the OPEN and CLOSE control keys are kept pressed. The radio transmitter cannot be used.
OFF: Normal impulse operation.
- Rapid closing (FASt cLS) [OFF]
ON: Closes barrier after photocell disengagement, before waiting for the end of the TCA (automatic closing time) set.
OFF: Command not entered.
- Photocells on opening (Phot. oPEn) [ON]
ON: In case of obscuring, this excludes photocell operation on opening. During the closing phase, it immediately reverses the motion.
OFF: In case of obscuring, the photocells are active both on opening and on closing. When a photocell is obscured on closing, it reverses the motion only after the photocell is disengaged.
- Photocell test (tESt Phot) [OFF]
ON: Activates photocell check (see Fig. 19)
OFF: Deactivates photocell check
- Direction Reversal (inv. dir.) [ON]
ON: For right-hand fitted barrier (see Par.5.2)
OFF: For left-hand fitted barrier
- SCA Alarm (ALArM ScA) [ON]
ON: The SCA contact (terminals 21-22) behaves as follows:
with barrier open and on opening:..contact closed (warning light on)
with barrier closed:contact open.....(warning light off)
on closing:.....intermittent contact (blinking)
OFF: The SCA contact closes according to the modes set by the Alarm Time parameter.
- Fixed code (F IXEd codE) [OFF]
ON: The receiver is configured for operation in fixed-code mode.
OFF: The receiver is configured for operation in rolling-code mode.
- Radio transmitter programming (rAd Io ProG) [ON]
ON: This enables transmitter storage via radio:
1 – First press the hidden key (P1) and then the normal key (T1, T2, T3 or T4) of a transmitter already memorised in standard mode by means of the radio menu.
2 – Within 10s press the hidden key (P1) and the normal key (T1, T2, T3 or T4) of a transmitter to be memorised.
The receiver exits the programming mode after 10s, other new transmitters can be entered before the end of this time.
This mode does not require access to the control panel.
OFF: This disables transmitter storage via radio.
The transmitters can only be memorised using the appropriate Radio menu.
- Master/Slave (MAStEr) [OFF]
ON: The control panel is set as Master in a centralised connection.
OFF: The control panel is set as Slave in a centralised connection.

14.3) Radio Menu (rAd Io)
- Add start (Add StArt)
Associates the required key to Start command
- Read (rEAd)
Checks one key of a receiver; if stored it displays a message showing the receiver number in the memory location (from 01 to 64), and the key number (T1, T2, T3 or T4).
- Eliminate list (ErASE 64)
WARNING! Completely removes all memorised radio control devices from the receiver memory.
- **Receiver code reading** (rH codE)
This displays the code entered in the receiver.

14.4) Language Menu (LAnGUAGE)
Allows you to set the language on the display programmer.
5 languages are available:
- ITALIAN (tA)
- FRENCH (FrA)
- GERMAN (dEU)
- ENGLISH (EnG)
- SPANISH (ESP)

14.5) MENU DEFAULT (dEFAULt)
Restores the preset default values on the control unit.

14.6) DIAGNOSTICS AND MONITORING
During normal operation, the display present on the **LIBRA C MV** control panel shows the following information:
STOP = STOP input activation
BAR = EDGE input activated or obstacle alarm
PHOT = PHOT input activation
FLTF = FAULT input activation for checked photocells
TIME = TIMER input activation
CLS = CLOSE input activation
OPEN = OPEN input activation
STRT = START input activation
SWO = barrier in opening position
SWC = barrier in closing position
RIFO = reference input on opening activated
RIFC = reference input on closing activated

In case of malfunctions, the display shows a message indicating which device needs to be checked:
ER0X = check on safety devices failed
ER1X = check on motor control failed
ER2X = encoder direction wrong (power supply cables for motor or encoder signal reversed)
ER4X = overload error (the system does not allow to start new manoeuvres as long as the error persists)
ERIF = error due to position references both active.

14.7) Statistics
With the use of the universal programmer, you can consult the statistical parameters stored in the control panel memory:
- Board microprocessor software version.
- Number of cycles carried out. If motors are replaced, count the number of manoeuvres carried out up to that time.
- Number of cycles carried out from the latest maintenance operation. It is automatically set to zero after each self-diagnosis or parameter writing.
- Date of latest maintenance operation. To be updated manually from the appropriate menu "Update maintenance date".
- Installation description. 16 characters can be entered for installation identification.

15) CONNECTION TO PARKY CAR-PARK MANAGEMENT SYSTEM
The board can be configured in order to make an output available for controlling the barrier status. When the SCA Alarm logic is disabled (OFF) and the Alarm Time parameter is set to 0 s, the SCA contact (JP12 21-22) is configured as follows (Fig.22):
- contact **closed** between terminals **21-22** with the barrier **lowered**
- contact **open** between terminals **21-22** with the barrier **lifted**

16) LIMIT SWITCH SETTING
WARNING: before opening the door, the spring must be unloaded (vertical boom). The barrier is provided with programmable electronic limit switches and mechanical stop devices. There must be a rotation margin (about 1°) on closing and opening between the electrical limit switches and mechanical stop devices (fig.11). The adjustment is carried out as follows:
The end-of-stroke opening and closing positions must be set by modifying the parameters of the control panel for Opening value Calibration and

Closing value Calibration: if the value is increased, the end-of-stroke positions move towards the opening direction. The extent of the movement depends on the effective boom length: in the case of a 6-m boom, a unit change (1.0) entails a movement of about 2.2 cm which, proportionally, becomes about 2.9 cm for an 8-m boom.
The effective closing value also depends, in part, on the manoeuvring speed. It is therefore convenient to proceed to end-of-stroke calibration only after having set the other opening parameters.
To evaluate correctly the values set, you are advised to carry out a few complete consecutive manoeuvres.

17) EMERGENCY RELEASE (Fig.14)
The emergency release allows the bar to be manoeuvred manually. It is activated from the outside of the box by inserting the personalised key into the lock placed under the bar and rotating it clockwise by 90°.
WARNING! When an actuator without bar needs to be released, ensure that the balancing spring is not compressed (bar in the opening position).

18) USE OF AUTOMATION
As automation can be remotely controlled and therefore not within sight, it is essential to frequently check that all safety devices are perfectly efficient.
WARNING! In case of any malfunction in the safety devices, take immediate action and require the assistance of a specialised technician.
It is recommended to keep children at a safe distance from the automation field of action.

19) CONTROL
The automation system is used to obtain motorised access control. There are different types of control (manual, remote, magnetic badge, mass detector etc.) depending on the installation requirements and characteristics. For the various control systems, see the relevant instructions.

20) MAINTENANCE
WARNING: before opening the door, the spring must be unloaded (vertical boom). WARNING: Before carrying out any maintenance to the installation, disconnect the mains power supply. The following points need checking and maintenance:
- Photocell optics. Clean occasionally.
- Electric edge. Carry out a periodical manual check to ensure that the edge stops the bar in case of obstacles.
- Dismantle the gearmotor and replace the lubricating grease every two years.
- When any operational malfunction is found, and not resolved, disconnect the mains power supply and require the assistance of a specialised tech-nician (installer). When automation is out of order, activate the emergency release (see paragraph 17) so as torelease the manual bar opening and closing operations.

21) SCRAPPING
Materials must be disposed of in conformity with the current regulations. In case of scrapping, the automation devices do not entail any particular risks or danger. In case of recovered materials, these should be sorted out by type (electrical components, copper, aluminium, plastic etc.).

22) DISMANTLING
WARNING: before opening the door, the spring must be unloaded (vertical boom). When the automation system is disassembled to be reassembled on another site, proceed as follows:
- Disconnect the power supply and the entire electrical installation.
- Remove the actuator from its fixing base.
- Disassemble all the installation components.
- In the case where some of the components cannot be removed or are damaged, they must be replaced.

23) MALFUNCTION: CAUSES and REMEDIES
23.1) The bar does not open. The motor does not turn.
WARNING: before opening the door, the spring must be unloaded (vertical boom).
1) Check that the photocells are not dirty, or engaged, or not aligned. Proceed accordingly. Check the electric edge.
2) Check the correct connection of the drive motor and capacitor.
3) Check that the electronic appliance is correctly supplied. Check the integrity of the fuses.
4) Use the control unit self-diagnosis (see par. 14.6), to check whether the functions are correct. Identify any possible cause for the fault. If self-diagnosis indicates that a start command persists, check that there are no radio transmitters, start buttons or other control devices keeping the start contact activated (closed).
5) If the control unit does not work, it must be replaced.
6) Check the activation of the reference microswitches by checking the messages appearing on the control panel display.

23.2) The bar does not open. The motor turns but there is no movement.
1) The manual release was left engaged. Reset the motorised operation.
2) If the release is in the motorised operation position, check the gearmotor for integrity.

WARNINGS
Correct controller operation is only ensured when the data contained in the present manual are observed. The company is not to be held responsible for any damage resulting from failure to observe the installation standards and the instructions contained in the present manual.

The descriptions and illustrations contained in the present manual are not binding. The Company reserves the right to make any alterations deemed appropriate for the technical, manufacturing and commercial improvement of the product, while leaving the essential product features unchanged, at any time and without undertaking to update the present publication.

Fig. A

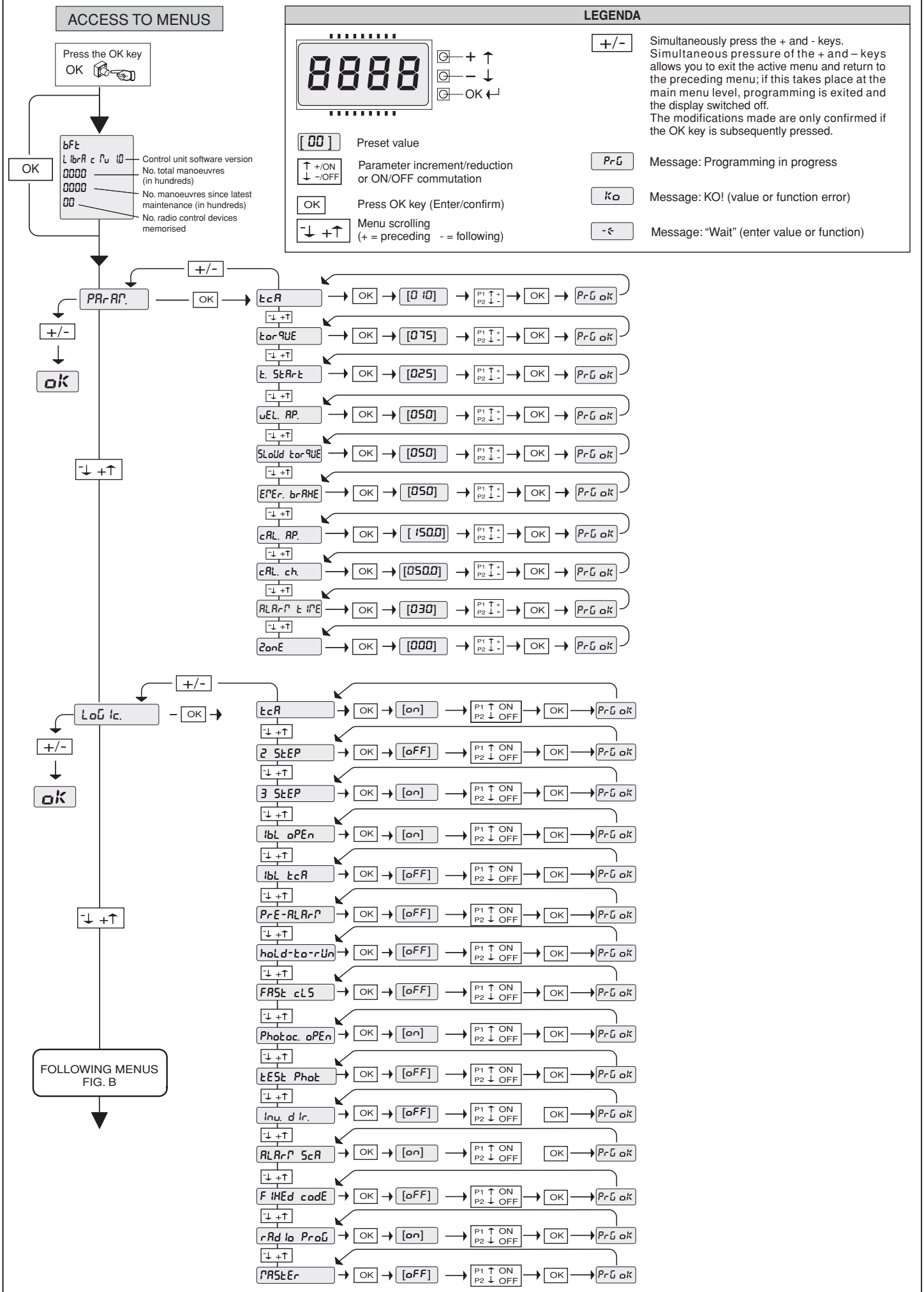

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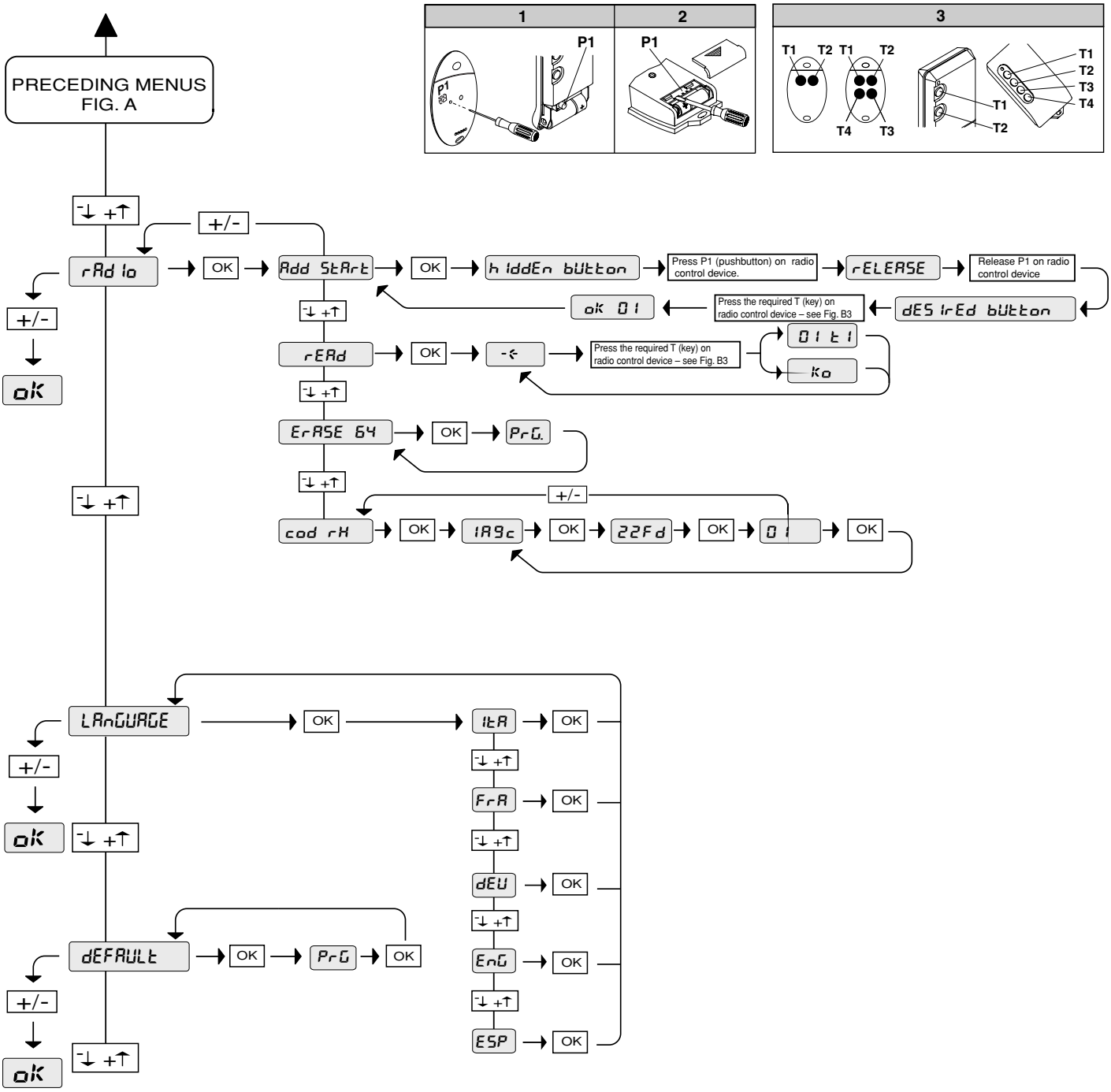
Fig. B


1
2
3
P1
P1
T1 T2 T1 T2
T4 T3
T1
T2
T3
T4
T1
T2
PRECEDING MENUS
FIG. A
-↓ +↑
+/-
rAd Io
OK
Add StArt
OK
h iddEn bUtton
Press P1 (pushbutton) on radio control device.
rELEASE
Release P1 on radio control device
dES IrEd bUtton
Press the required T (key) on radio control device – see Fig. B3
ok 01
rEAd
OK
-←
Press the required T (key) on radio control device – see Fig. B3
01 t1
Ko
ErASE 64
OK
PrG.
cod rX
OK
1A9c
OK
22Fd
OK
01
OK
ok
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ItA
FrA
dEU
EnG
ESP
dEFAULt
OK
PrG
OK

Fig. 1

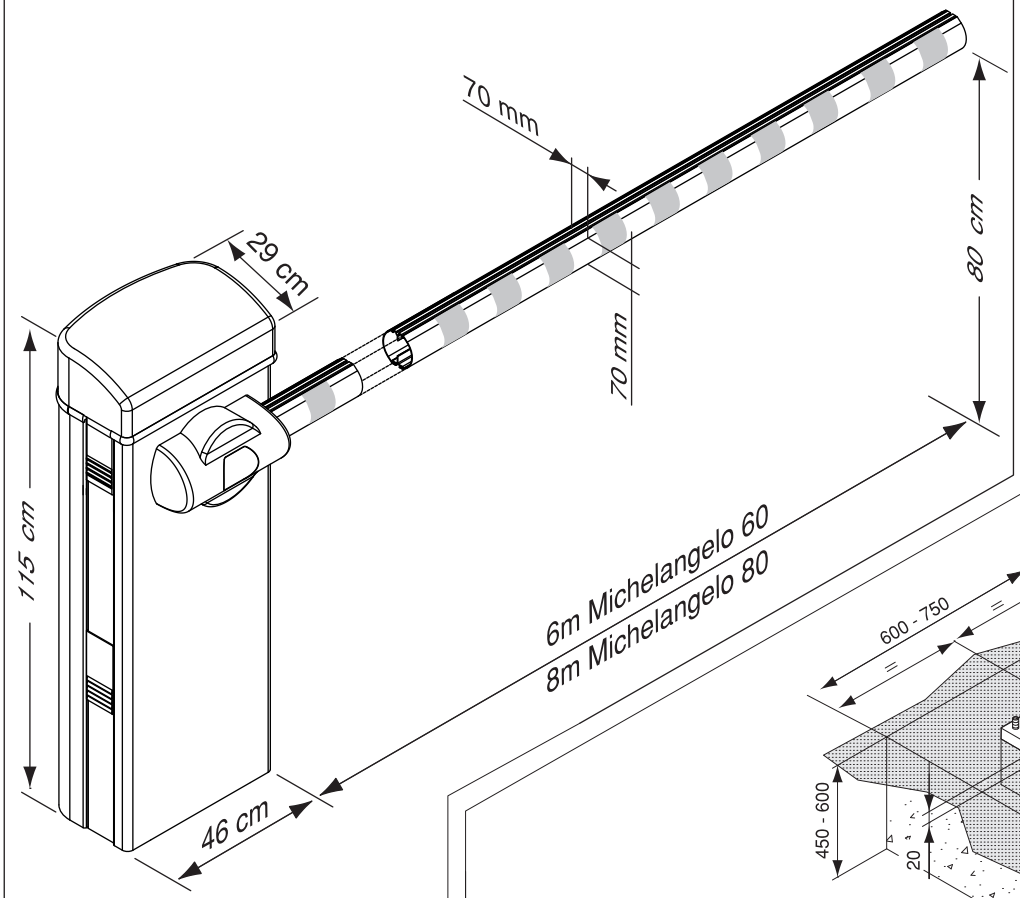

Fig. 2

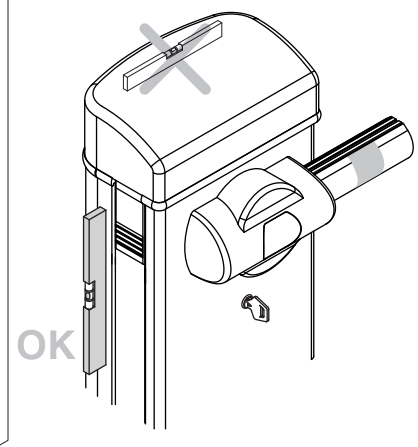

Fig. 3

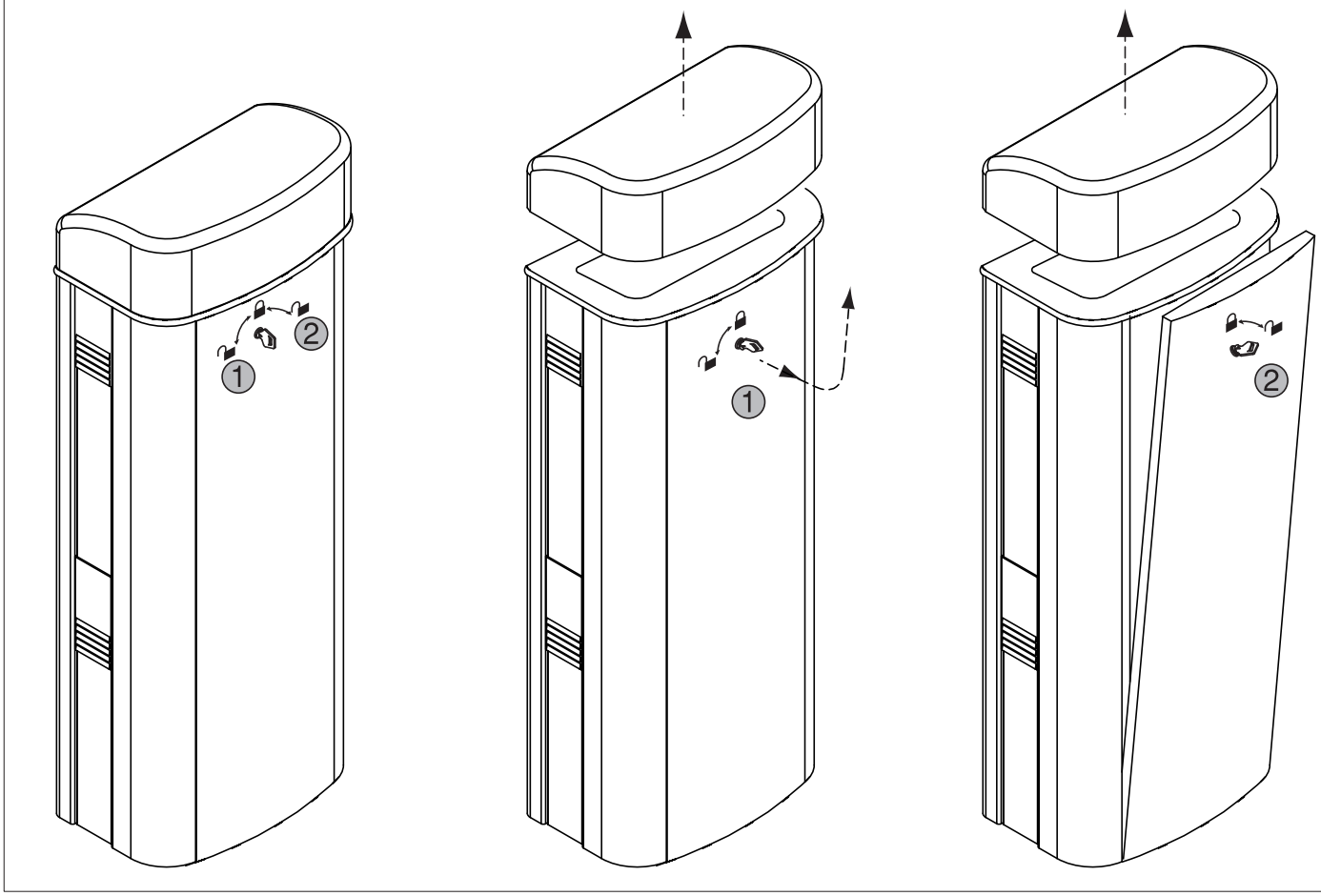

Fig. 4

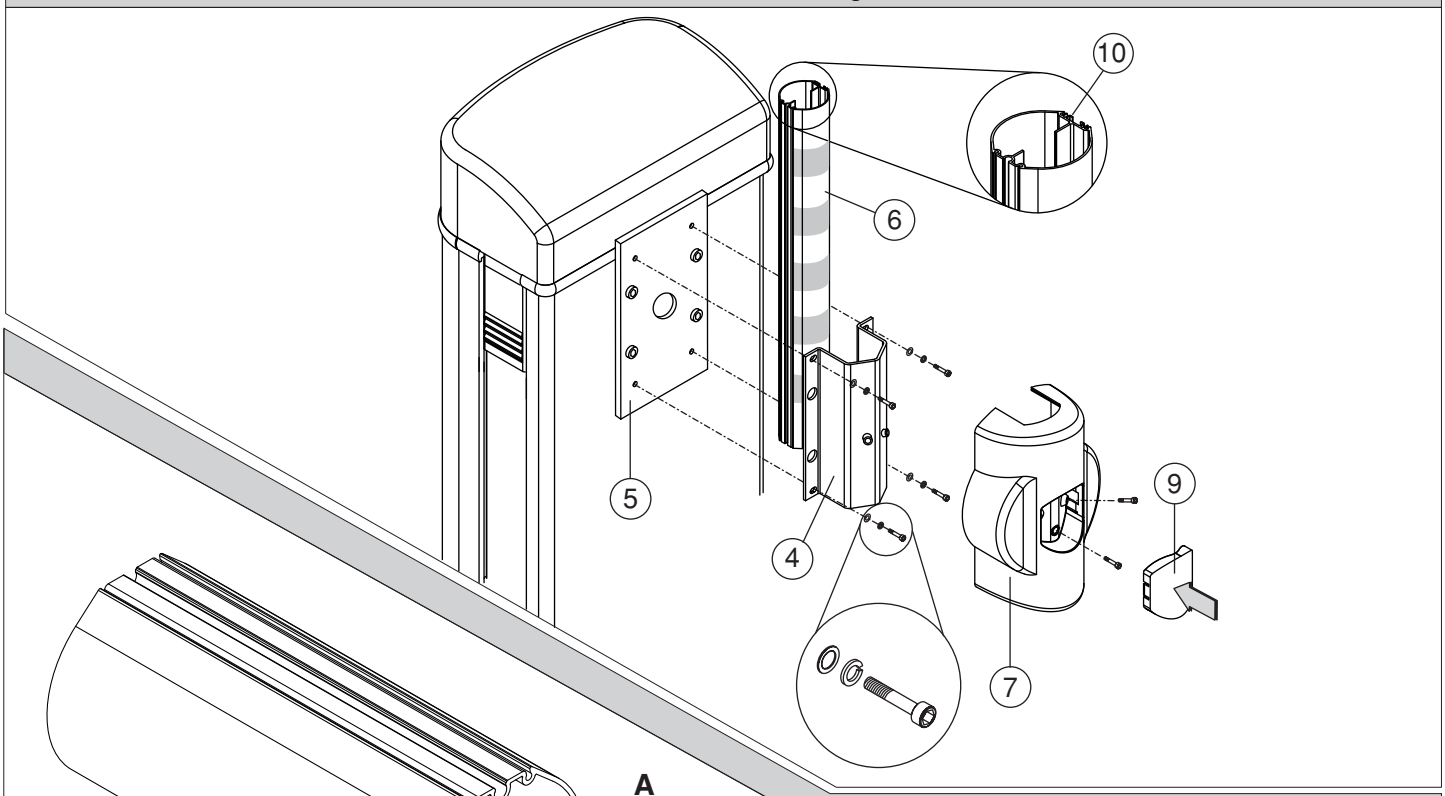

Fig. 5

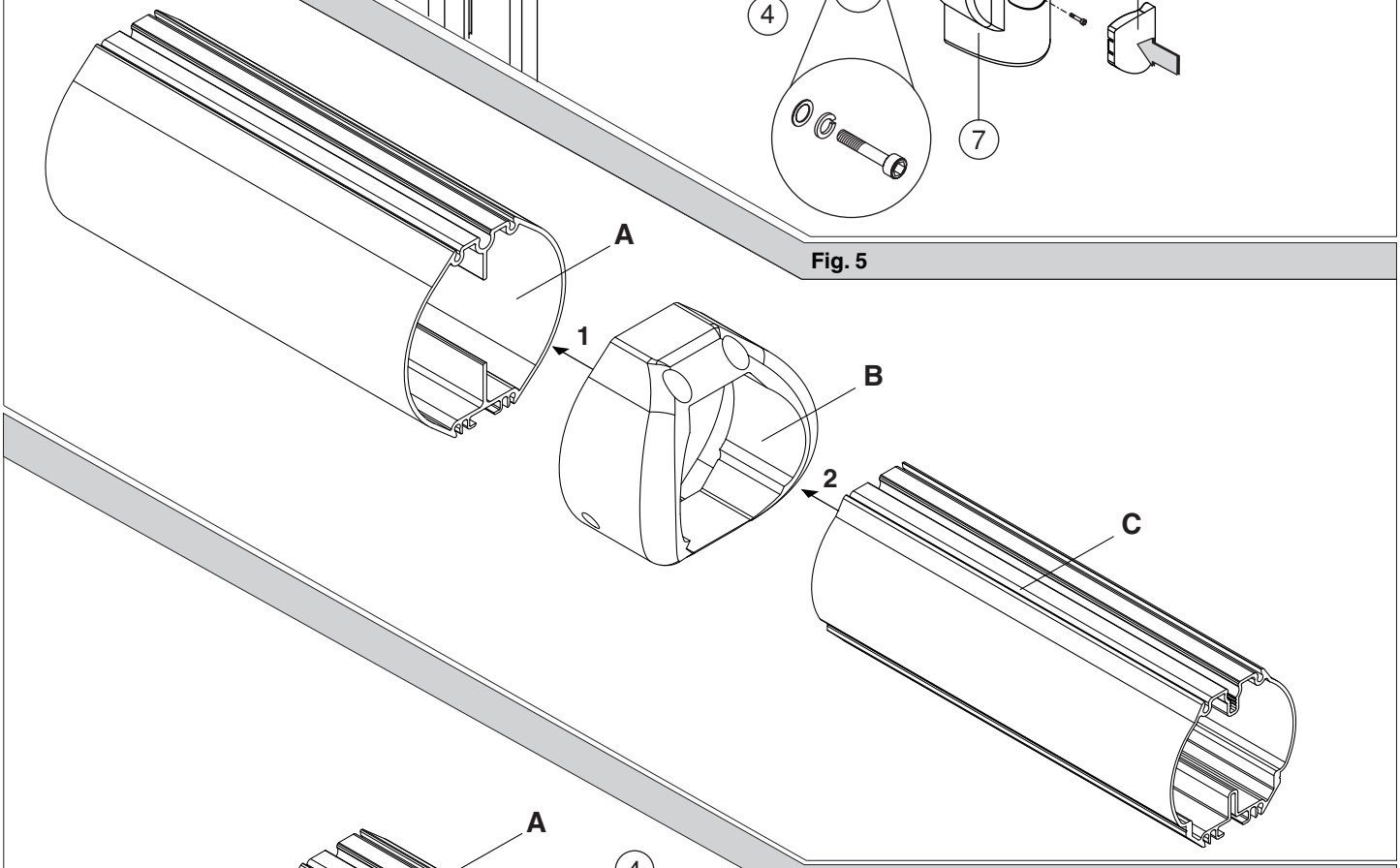

Fig. 6

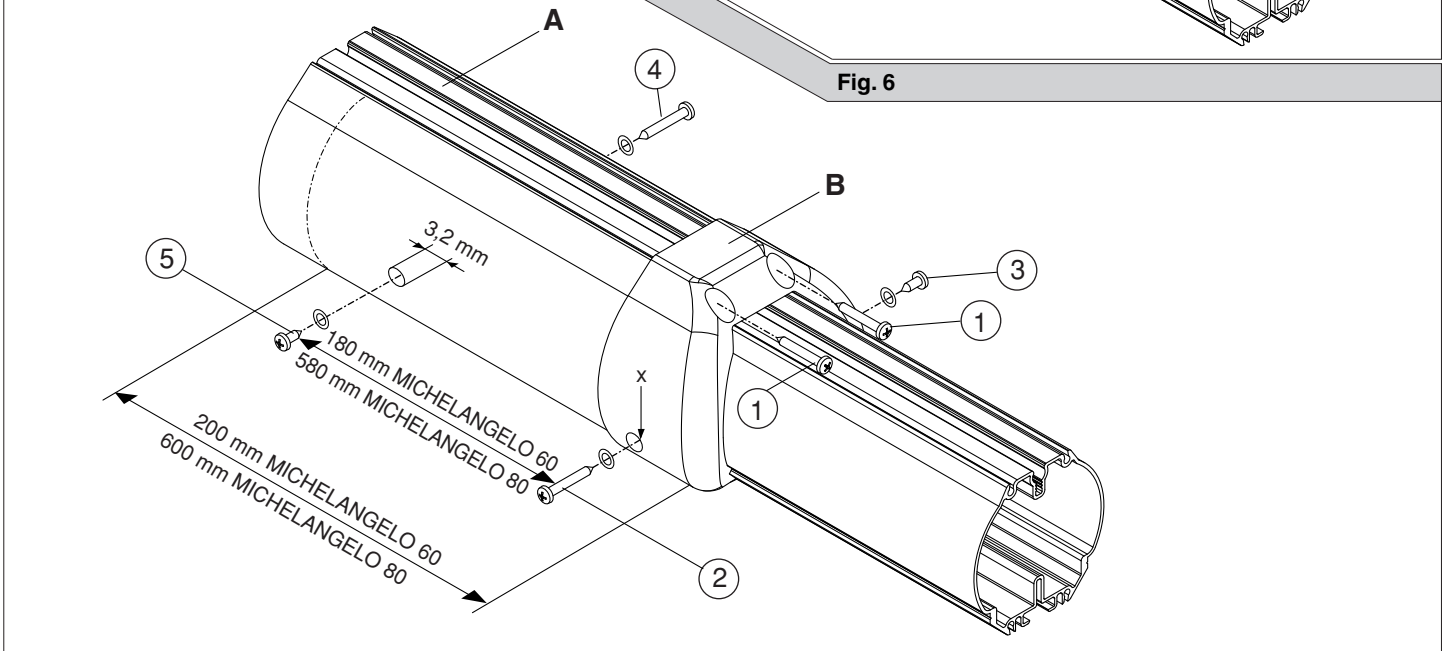

Fig. 7

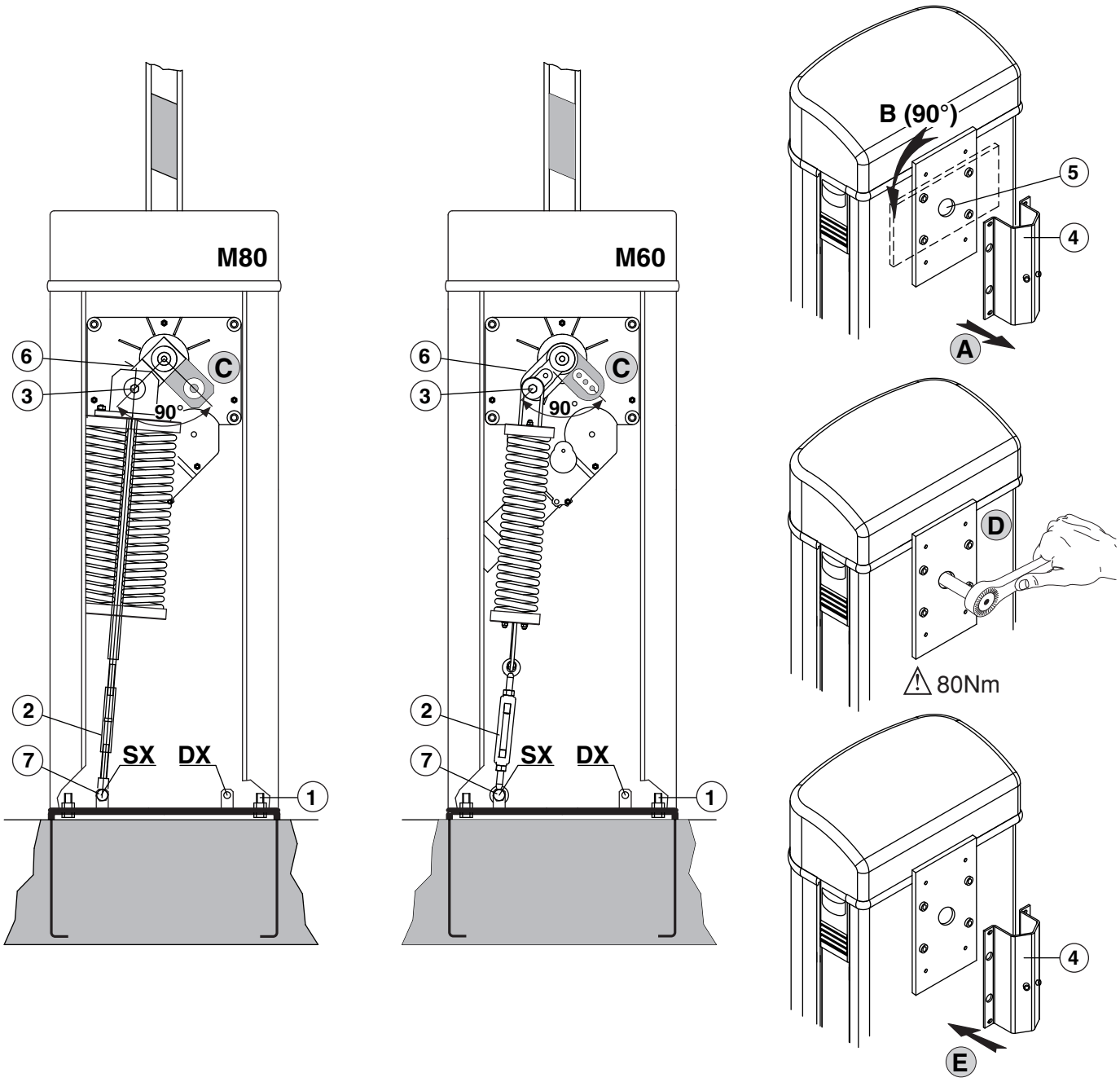

Fig. 8

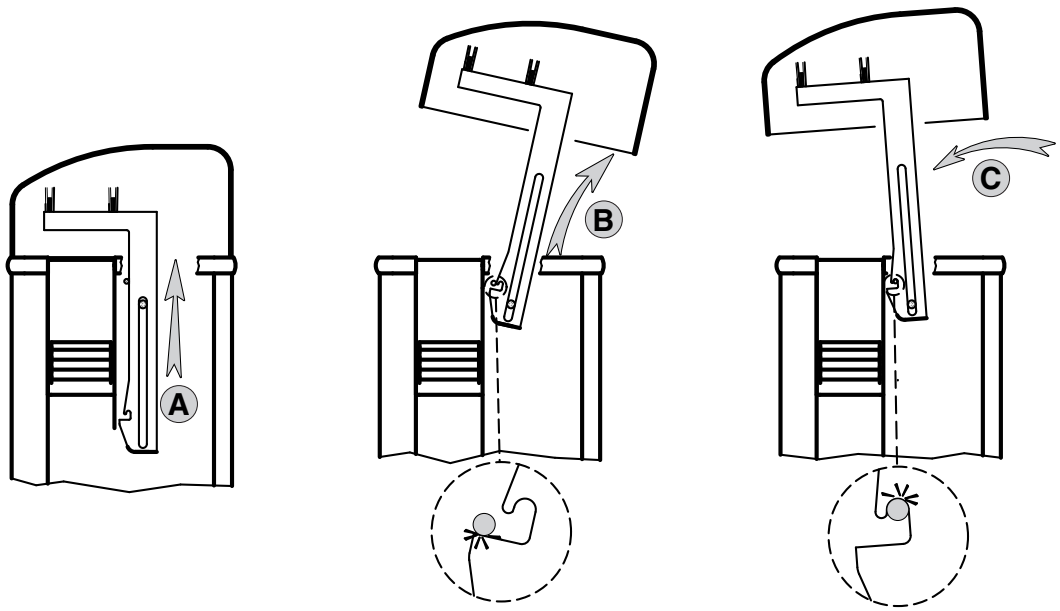

Fig. 10

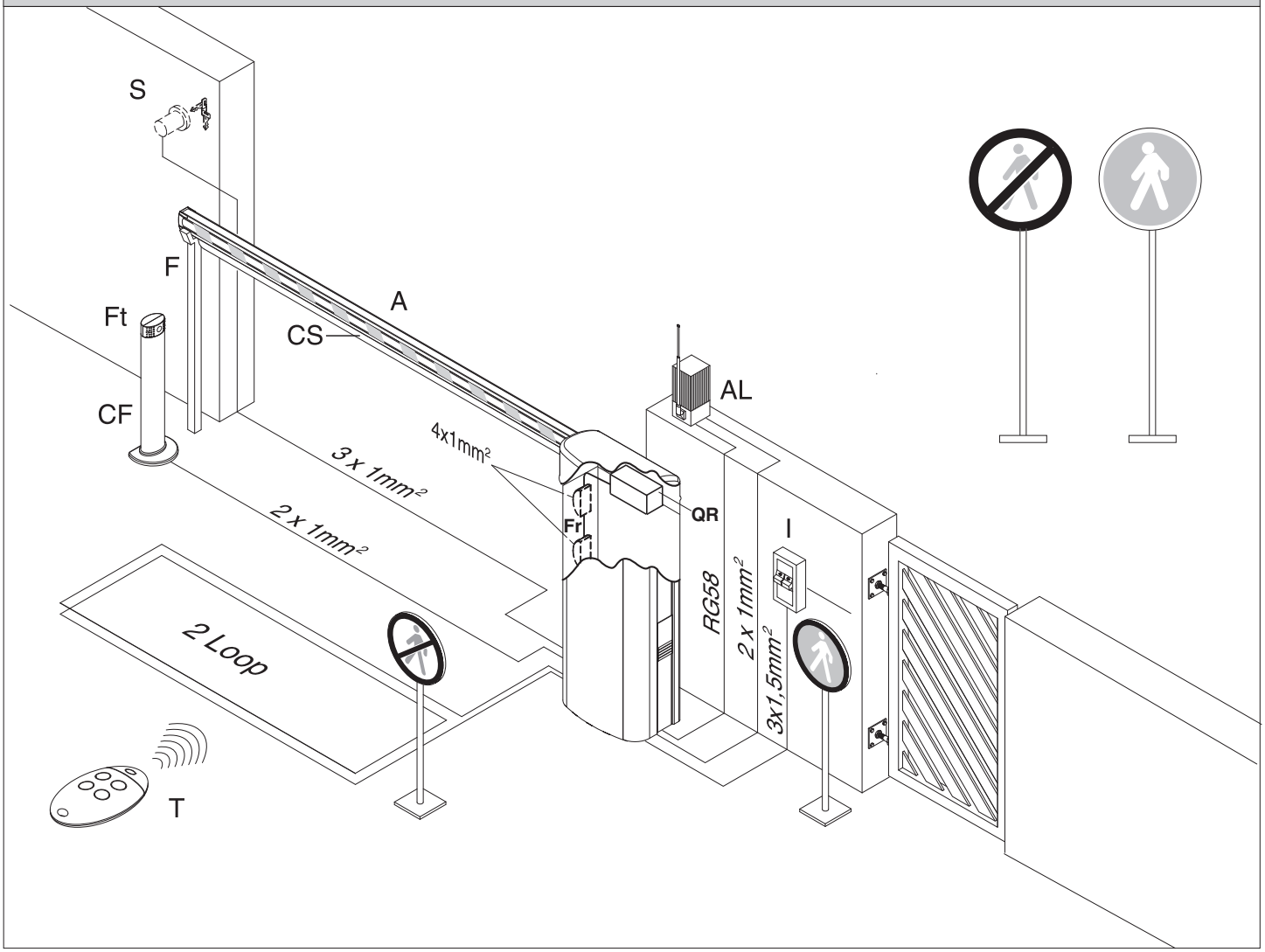

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Fig. 11

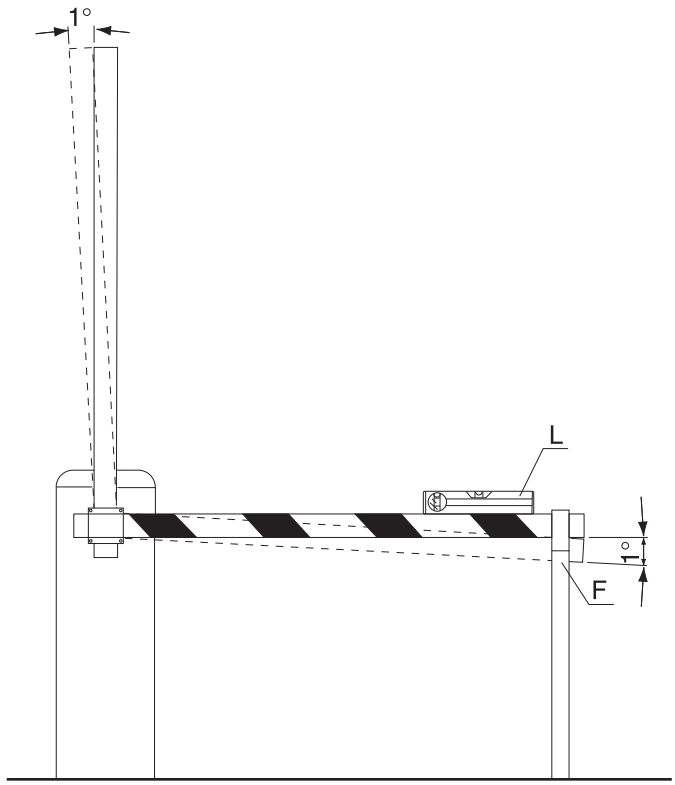


Fig. 12

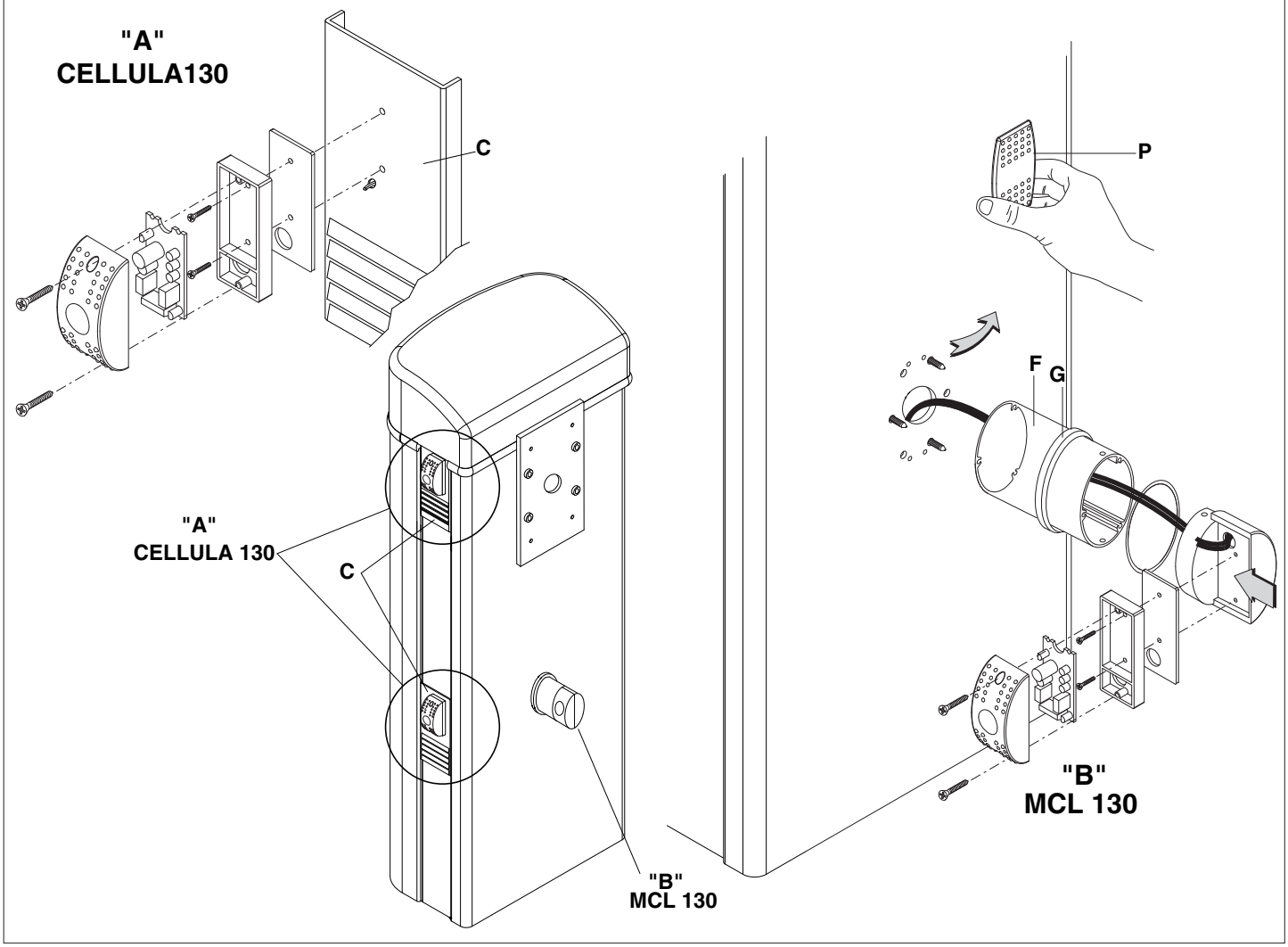

"A"
CELLULA130
C
"A"
CELLULA 130
C
"B"
MCL 130
P
F
G
"B"
MCL 130

Fig. 13

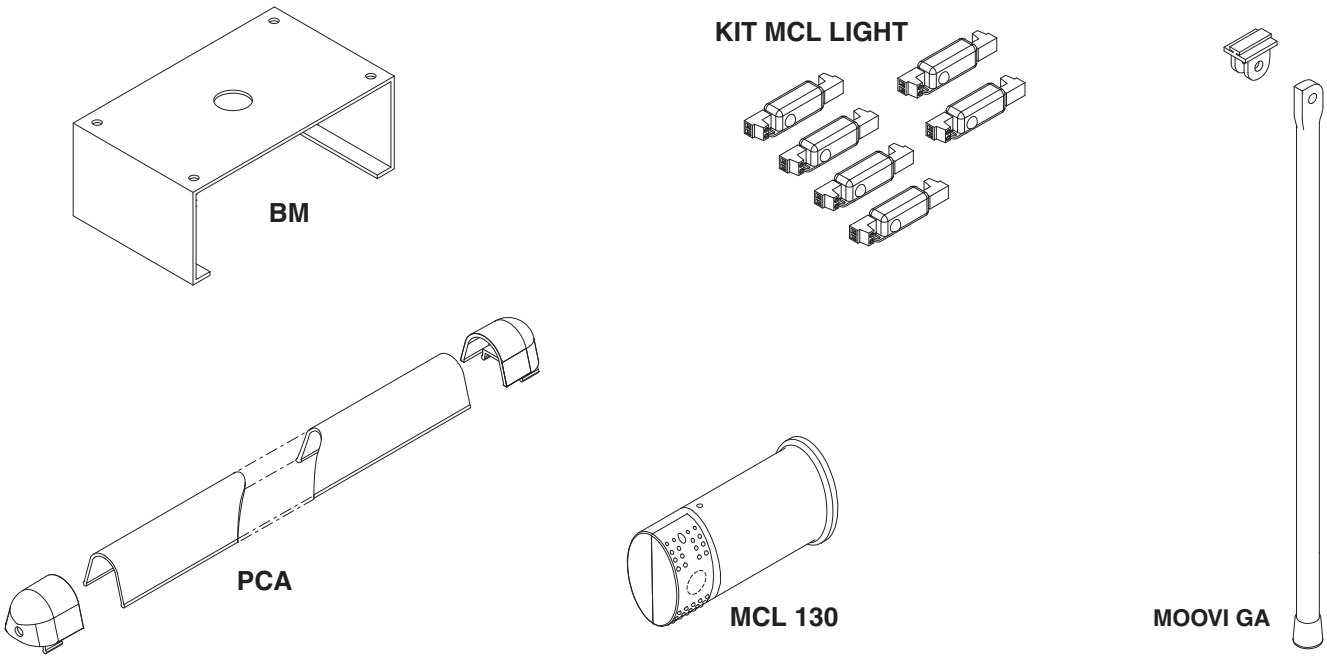
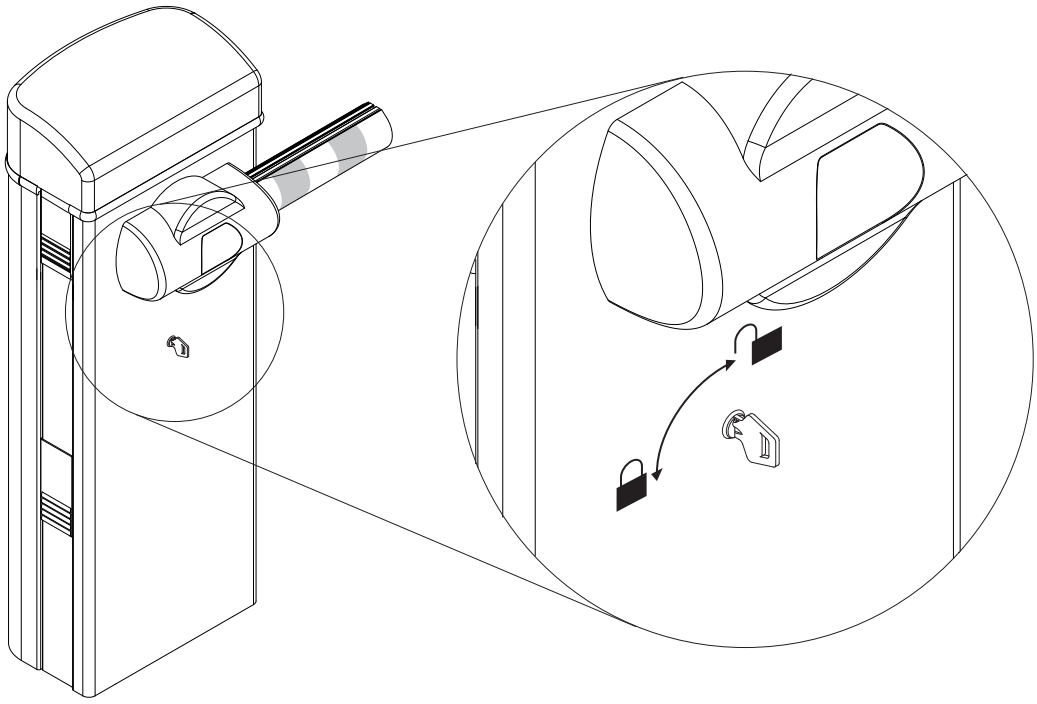

BM
KIT MCL LIGHT
PCA
MCL 130
MOOVI GA

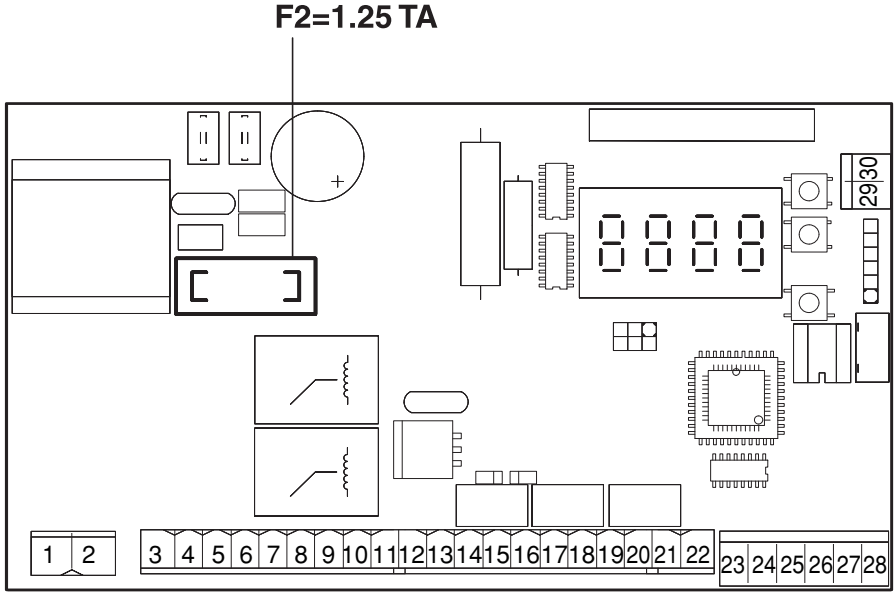
Fig. 14



MANUALE - MANUAL - MANUEL
BEDIENUNGSANLEITUNG - MANUAL - MANUAL

AUTOMATICO - AUTOMATIC - AUTOMATIQUE
AUTOMATIK - AUTOMÁTICO - AUTOMÁTICO

Fig. 18



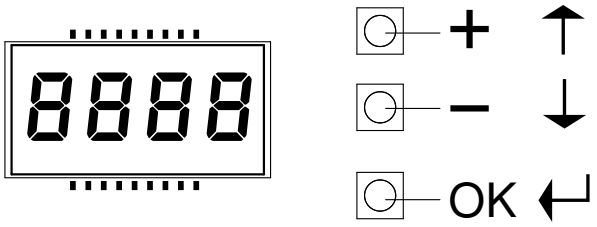
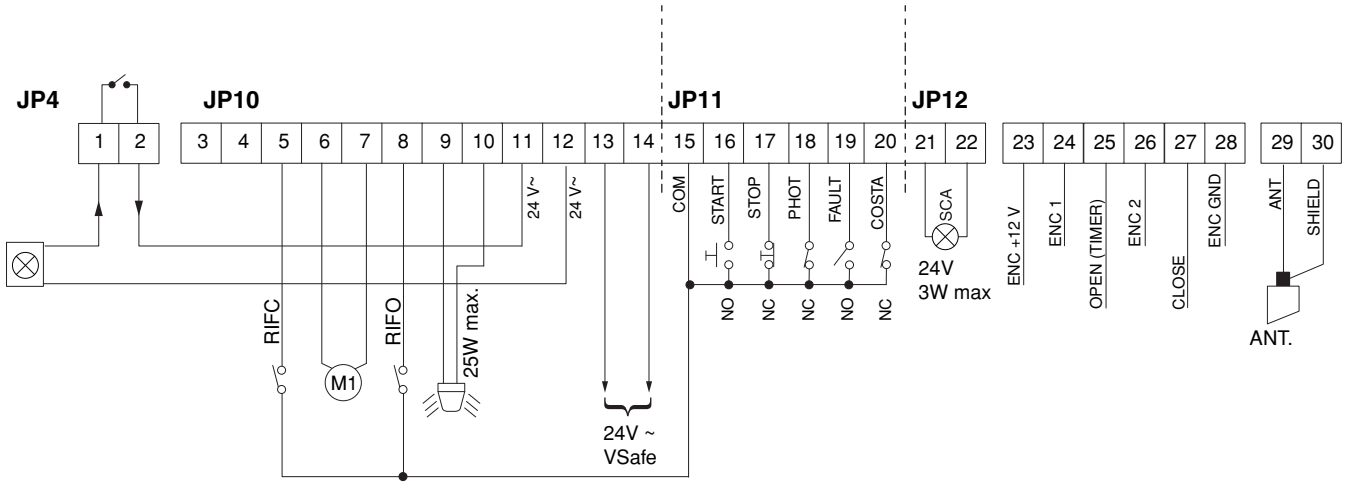


Fig. 19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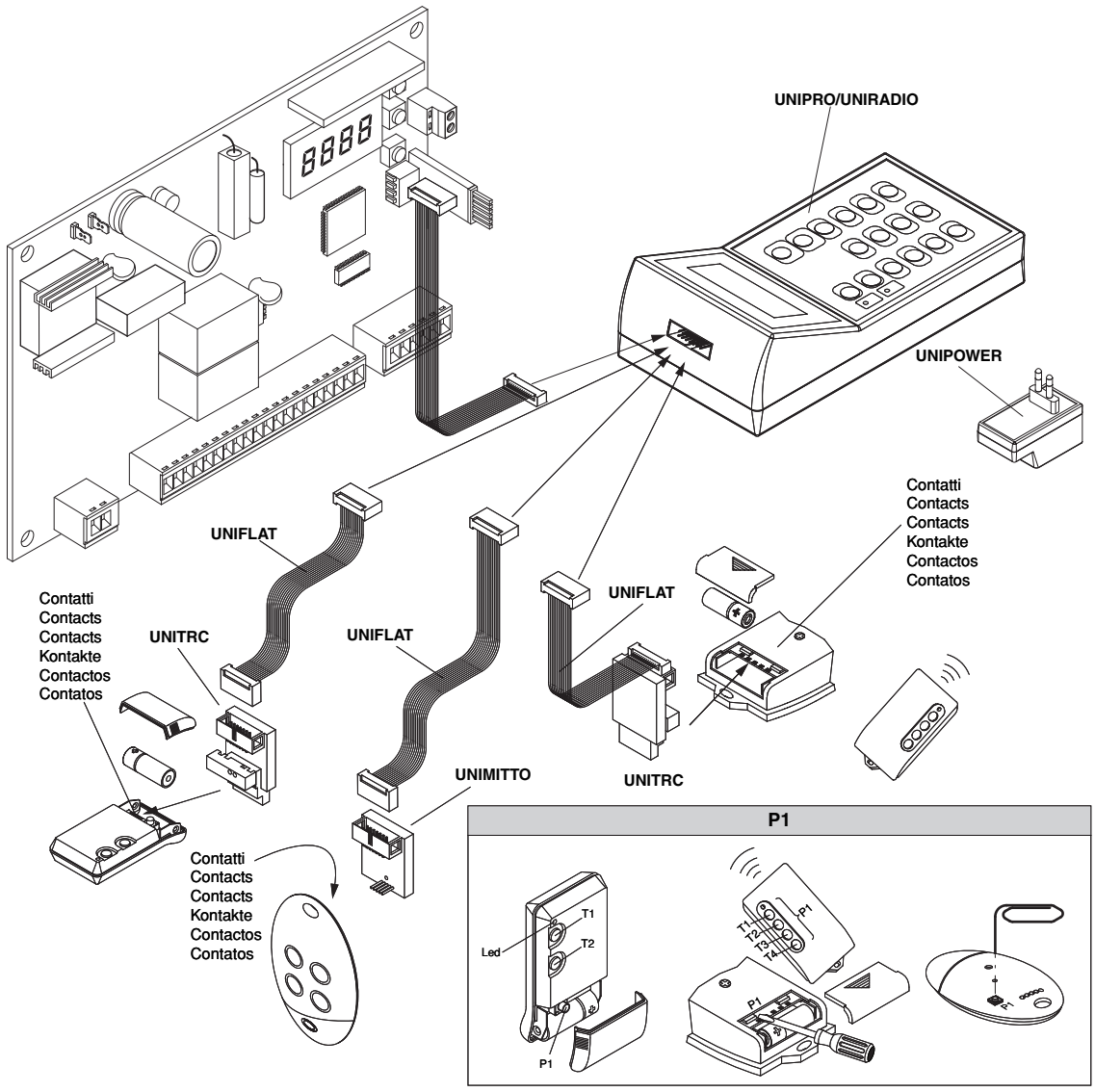
30
24 V~
24 V~
COM
START
STOP
PHOT
FAULT
COSTA
SCA
24V
3W max
ENC +12 V
ENC 1
OPEN (TIMER)
ENC 2
CLOSE
ENC GND
ANT
SHIELD
ANT.
RIFC
RIFO
M1
25W max.
24V ~
VSafe
NO
NC
NC
NO
NC

Fig. 20


UNIPRO/UNIRADIO
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Kontakte
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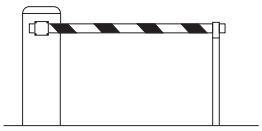
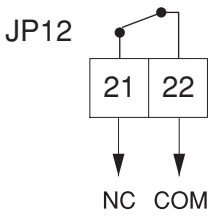
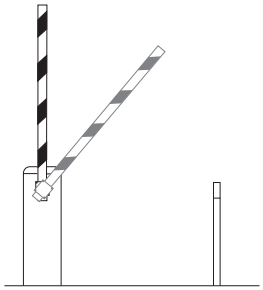
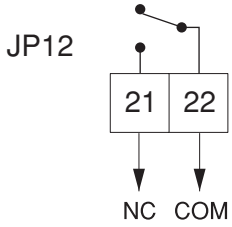
Fig. 22









BFT S.P.A.
Via Lago di Vico 44
36015 Schio (VI) / ***Italy***
Tel. 0039 445.696511 - Fax 0039 445.696522
www.bft.it - e-mail: sales@bft.it

BFT TORANTRIEBSSYSTEME GmbH
Faber-Castell Str. 29
90522 Oberasbach / ***Germany***
Tel. 0049 911 7660090 - Fax 0049 911 7660099
e-mail: service@bft-torantriebe.de

BFT AUTOMATION UK LTD
Unit 8E, Newby Road
Industrial Estate Hazel Grove
Stockport SK7 5DA / ***England***
Tel. 0044 161 4560456 - Fax 0044 161 4569090
e-mail: info@bft.co.uk

AUTOMATISMES BFT FRANCE
13 Bdl. E. Michelet
69008 Lyon / ***France***
Tel. 0033 4 78 76 09 88 - Fax 0033 4 78 76 92 23
e-mail: infofrance@bft.it

BFT BENELUX SA
Rue du commerce 12
1400 Nivelles / ***Belgium***
Tel. 0032 67/ 55 02 00 - Fax 0032 67/ 55 02 01
mail: info@bftbenelux.be

BFT-ADRIA d.o.o.
Obrovac 39
51218 Dražice (RIJEKA) / ***Croazia***
Tel. 00385 51 502 640 - Fax 00385 51 502 644
www.bft.hr - e-mail: info@bft.hr

BFT Polska Sp. z o.o.
ul. Szałwiowa 47
03-167 Warszawa / ***Polska***
Tel. 0048 022 814 12 22 - Fax 0048 022 814 39 18
www.bft.com.pl - e-mail: biuro@bft.com.pl

BFT GROUP
ITALIBERICA DE AUTOMATISMOS S.L.
España
www.bftautomatismos.com

P.I. Palau Nord, Sector F
C/Cami Can Basa nº 6-8
08400 GRANOLLERS ***Barcelona***
Telf. +34 93 8614828 - Fax +34 93 8700394
e-mail: bftbcn@bftautomatismos.com

P.I. Comendador,
C/ informática, Nave 22
19200 AZUQUECA DE HENARES ***Guadalajara***
Telf. +34 949 26 32 00 - Fax. +34 949 26 24 51
e-mail: bft@bftautomatismos.com